

## ABSTRACT OF THE DISCLOSURE

An image forming apparatus includes at least one image carrier. An endless transfer belt directly or indirectly receives toner images and pattern toner images from the image carrier and is spanned around and surrounds a drive roller and driven rollers. A position shift detector  
5 detects positions of pattern toner images formed on the image carrier. Pattern toner images are formed on the image carrier at an interval of  $1/N$  of a circumferential length of the image carrier, where  $N$  is an integer equal to or greater than 1. The pattern toner images are transferred from the image carrier onto the transfer belt over one cycle length of the transfer belt. The position  
10 shift detector detects positions of the pattern toner images to obtain position shift data. Moving average values of  $N$  number of the position shift data are calculated.